

An early and favorable action on the material is respectfully requested.

Respectfully submitted,

Date: March 18, 2002

A handwritten signature in black ink, appearing to read "David K. Benson", is written over a horizontal line.

David K. Benson

Reg. No. 42,314

Rader, Fishman & Grauer PLLC

Suite 501

1233 20th Street, N.W.

Washington, D.C. 20036

Telephone: (202) 955-3750

Facsimile: (202) 955-3751

Customer No. 23353

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

[8. The image processing unit according to Claim 4, wherein if one of the main signal values ($r[x][y]$, $g[x][y]$, $b[x][y]$) takes a presumably maximum value (rm , gm , bm) within a set of this signal, then said another coefficient (s) is set to a value which brings the presumably maximum value (rm , gm , bm) close to a maximum scale value (D) of the main signal values.

9. The image processing unit according to Claim 4, wherein a pixel is defined as a corrupted pixel if the main signal values in the pixel have reached the maximum scale value (D) in two of the channels and if the main signal value in the remaining channel has not reached the maximum value (D), said another coefficient (s) having a value which brings presumably minimum values (rcm , bcm) of the main signal values in said remaining channel within a set of the corrupted pixels at least to the maximum scale value (D).

10. The image processing unit used in the image capturing system according to Claim 2, wherein a corrected value (bc) of the main signal in a blue channel is calculated based on a ratio between corrected values (rc , gc) in red and green channels if the main signal value only in the blue channel has reached the maximum scale value (D) and if the main signal values in the red and green channels have not reached the maximum scale value (D).

11. The image processing unit used in the image capturing system according to Claim 2, further including a compressing unit (81) of the main signal for compression of the main signal after the correction.]

[15. The image capturing system according to Claim 14, further comprising a coordinate table for elimination of the corrupted pixels of the light detecting element (38) when selecting the selected reference portions (137a, 137b).

16. The image capturing system according to Claim 1, wherein the reference scene is limited mainly to a center portion or an adjacent portion of the main scene, by disposition of the reflection surface or selection of the plurality of pixels for the reference signals.

17. The image capturing system according to Claim 2, further comprising at least another of the camera, the corrected signal values ($rc[x][y]$, $gc[x][y]$, $bc[x][y]$) being provided from one of the cameras for virtual multiplication in each of the color channels with the reference signal values provided from the other camera for obtaining a secondary corrected image, the secondary corrected image being merged with an image from said other camera into a synthesized image.]

[22. The camera used in the image capturing system according to Claim 1, wherein the overall image region (100) is rectangular, having a corner portion disposed with the reference image portion (130).

23. The camera according to Claim 22, wherein the reflection surface (61) is rotatable about a center axis of the lens (41), a position of the reflection surface (61) selectively determining one of the corners at which the reference image portion (130) being placed or the reference image portion not being placed within the overall image region (100).]

[26. The camera used in the image capturing system according to Claim 1, wherein the angle and coordinate positions of a starting point of the reflection surface (61) being changed continuously in accordance with the focal length of the lens (41), relative position between the reflection surface and the lens being changed in accordance with the focal length of the lens (41) by a reflection surface moving mechanism (65).

27. An IC chip or an electric circuit provided with function realized by the image processing unit according to any one of Claims 3 ~ 11, or the image capturing system according to any one of Claims 13 ~ 18.]

28. A recording medium recorded with software to be located into a computer for execution of the function realized by the image processing unit according to [any one of] Claim[s] 3 [~ 11, or the image capturing system according to any one of Claims 13 ~ 18].

[29. The image processing unit according to any one of Claims 3 ~ 11, or the image capturing system according to any one of Claims 13~ 18, wherein the image correction is performed between two computers connected with each other via a communication link such as a telephone line or Internet.]

30. The camera according to [any one of] Claim[s] 13 [or 19 ~ 25], provided with a cover for prevention of light from entering into the reflection surface from outside of the main scene or the reference scene.

[32. The camera used in the image capturing system according to Claim 1, wherein the camera has an image capturing device sensitive to visible or invisible light.]

[36. The image capturing system according to Claim 35, wherein a plurality of the preset filters can be used in combination.

37. The image capturing system according to Claim 33, wherein the optical filter means includes a pump for pumping a medium, an ink injector capable of injecting a plurality of color inks individually, a mixer for making a mixture of the medium and the color inks, and a transparent passage serving as the optical filter for allowing the mixture to pass through.

38. The image capturing system according to Claim 33, wherein the optical filter means includes a pump for pumping a medium, an ink injector capable of injecting a plurality of color inks individually, a plurality of mixers each for making a mixture of the medium and one of the color inks individually, and a plurality of transparent passages each serving as the optical filter for allowing one of the mixtures to pass through.

39. The image capturing system according to Claim 33, wherein the optical filter means includes a pump for pumping a medium, an ink injector capable of injecting a plurality of color inks individually, a plurality of mixers each for making a mixture of the medium and one of the color inks individually, and a plurality of transparent cells each serving as the optical filter for allowing one of the mixtures to pass through, each cell being provided on a front surface of a black-and-white image capturing device, to correspond to one of RGB in one pixel, the cells assigned to a same color being interconnected via bridge path.

40. The image capturing system according to Claim 33, wherein a filter characteristic of the optical filter is changeable, the optical filter means including a transmittance level changing means capable of changing a transmittance in accordance with the filter characteristic change.

41. The image capturing system according to Claim 33, wherein the camera includes an optical block for separating light into RGB and, three image capturing elements respectively corresponding to RGB, the optical filter being provided by the optical block, the optical filter means including for each of the image capturing devices a transmittance level changing means capable of changing a darkness level of the image.

42. The image capturing system according to Claim 40 or 41, wherein each of the transmittance level changing means includes two polar filters each capable of changing its angle.

43. The image capturing system according to Claim 41, wherein each of the transmittance level changing means includes two polar filters each capable of changing its angle, one of the two polar filters being provided as a common filter in front of the optical block, the other of the two being provided individually per color channel behind the optical block.

44. The image capturing system according to Claim 33, wherein the image capturing device is provided by a film (37), the means for measuring a complementary color including a lamp, a color-of-light detector for detecting a color of light having passed the light detecting elements, a light-source-color measuring portion, and a complementary color measuring portion based on the light-source-color measuring portion, the optical filter means including a filter for further allowing the light from the lamp through the film to a printing paper, and a filter changing unit for giving this filter the complementary color.

45. The image capturing system according to one of Claims 33 through 41, Claims 43 and 44, wherein the correction unit further includes an electrical correcting portion (72) for practical division by the reference signal values (r_n , g_n , b_n) obtained for each of the color channels, of respective main signal values ($r[x][y]$, $g[x][y]$, $b[x][y]$) at each of corresponding locations on coordinates in the main scene (110) captured by the image capturing devices (31, 37), whereby obtaining corrected signal values ($rc[x][y]$, $gc[x][y]$, $bc[x][y]$) as corrected values of the main signal value, the electrical correcting portion providing a color correction transitionally before completion of a color correction by the optical filter means .]